CLAIMS

1. An impedance matcher for matching the impedance of a at least one high bit rate transmission channel of a copper-wired terminal installation (ITC) connected to an access network delivering narrowband (analog or ISDN) services and broadband (x-DSL) services, said installation comprising a high bit rate x-DSL modem (M) and a jack (P; P1; P2, P3), which impedance matcher is characterized in that it comprises:

· an adjustment module (10, 30) installed in said jack (P; P1, P2, P3), consisting of an RC circuit and adapted to insert a terminating impedance into said jack (P; P1, P2, P3) when it is not connected to said high bit rate modem (M);

· a coupling module (20, 40) adapted to be combined with said adjustment module (10) when said high bit rate modem (M) is connected to said jack (P; P1, P2, P3) to transform the impedance inserted into said jack to make it transparent to high bit rate transmission of broadband services.

2. An impedance matcher according to claim 1, characterized in that the RC circuit of the adjustment module (10, 30) comprises, in series, a resistor (R), a capacitor (C1, C2), and a varicap diode (D1, D2).

3. An impedance matcher according to either claim 1 or claim 2, characterized in that the adjustment module (10, 30) is connected in parallel with a distributed filter (200).

4. An impedance matcher according to claim 3, characterized in that the adjustment module (10) comprises an even number of varicap diodes (D1, D2).

5. An impedance matcher according to claim 4, characterized in that the varicap diodes (D1, D2) are

disposed head-to-tail.

6. An impedance matcher according to any one of claims 1 to 5, characterized in that the coupling module (20) comprises a resistor (R1, R2) intended to be connected in parallel with the capacitor (C1, C2) of the adjustment module (10) to reverse-bias the varicap diode (D1, D2).

7. An impedance matcher according to either claim 1 or claim 3, characterized in that the adjustment module (30) includes a varicap diode (D1) and the coupling module (40) includes a rectifier bridge consisting of rectifier diodes (D2, D3, D4, D5) and a resistor bridge (R3, R4).

8. An impedance matcher according to either claim 6 or claim 7, characterized in that the resistor (R1, R2; R3, R4) has a value from 2 MΩ to 5 MΩ.

9. An impedance matcher according to any one of claims 6 to 8, characterized in that the coupling module (20, 40) is connected to the high bit rate modem (M).

10. An impedance matcher according to any one of the preceding claims, characterized in that the high bit rate modem (M) is a VDSL modem.

11. A copper-plated terminal installation (ITC) connected to an access network carrying narrowband services and broadband services comprising a jack (P; P1, P2, P3) and a high bit rate x-DSL modem (M), characterized in that it includes impedance matchers according to any one of claims 1 to 10.

12. An installation according to claim 11, characterized in that the impedance matchers each comprise two modules (10, 20; 30, 40) adapted to be combined when a high bit rate modem (M) is connected to the jack (P; P1, P2, P3),

the first module (10; 30) being installed in said jack (P; P1, P2, P3) at the point of access to the network and the other module (20; 40) being disposed in the plug for connecting the high bit rate modem (M).